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AMSAT NEWS SERVICE
ANS-321

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
http://www.amsat.org/mailman/listinfo/ans

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ANS-321 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 321.01
>From AMSAT HQ KENSINGTON, MD.
DATE 2019-Nov-17
To All RADIO AMATEURS
BID: $ANS-321.01

Happy 45th Birthday AMSAT-OSCAR 7!

At 17:11 UTC on November 15, 1974 a Delta-2310 rocket lifted off from SLC-2W at Vandenberg Air Force Base, sending AO-7 into orbit along with NOAA-4 and Intasat. Details about the launch and initial telemetry reception can be found at https://tinyurl.com/ANS-321-AO7Launch

After nearly 7 years of service, AO-7 was thought to have reached the end of its life in June 1981 due to battery failure. A retrospective detailing its exemplary record was published in the AMSAT Satellite Report, available at https://tinyurl.com/ANS-321-AO7Record

Though it was thought to be lost in 1981, there are reports that the Polish Solidarity movement used AO-7 to pass messages in 1982 while Poland was under martial law. An article, in Polish, with the details

is available at https://tinyurl.com/AO-7-Poland

Twenty years later, on June 21, 2002, G3IOR reported that he heard an old-style CW beacon from an unknown OSCAR satellite near 145.970 MHz. This was soon identified as AMSAT-OSCAR 7. The original AMSAT-BB post with news of the discovery is archived at https://tinyurl.com/ANS-321-AO7BB

Despite some pre-launch predictions that the CMOS logic circuits on-board "wouldn't last 3 weeks," AO-7 remains operational and well-used while in sunlight. It is the oldest operational satellite, in any service, in orbit. https://www.amsat.org/two-way-satellites/ao-7/

To celebrate AO-7's 45th birthday, AMSAT will auction off a set of gold-plated AO-7 cufflinks and a 50th Anniversary AMSAT lab coat (size 42R) next week. Check AMSAT-BB or AMSAT's social media pages for details on Monday morning.

[ANS thanks AMSAT for the above information]

19th Anniversary of ARISS Operations

On November 13, 2000, the ARISS amateur radio payload was turned on and the first operations occurred over Russia and the United States.

Our ARISS team is working feverishly on the final certification of our nextgeneration radio system: the Interoperable Radio System. We thank all those that have supported this development effort through team support as well as donations!! We continue to move closer to a planned March 2020 launch of the hardware on SpaceX CRS-20.

[ANS thanks Frank Bauer, KA3HDO, AMSAT Vice President for Human Space-flight and ARISS International Chair for the above information]

PO-101 (Diwata-2 QSLs) Available

The PHL Microsatellite Program, Electrical and Electronics Engineering Institute, University of the Philippines operates PO-101.

The FM transponder is available on a schedule published by the team on the PO-101 Users Group on Twitter (@Diwata2PH) and the PO-101 Users Group on Facebook (https://www.facebook.com/groups/880769575655081

PO-101 Operations (FM)
Uplink: 437.500 MHz - 141.3 Hz PL Tone
Downlink: 145.900 MHz

QSL Cards will be provided through email every month to users who sub-mit their QSO information via PO-101 using the Google form posted at: https://forms.gle/XZnjRGNSC2jSF51j6

Users may also upload your contact recordings or videos with PO-101 here: https://forms.gle/pV5DgBQeWf1fjqmu9

[ANS thanks the PO-101 Diwata2-PH team for the above information]

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The digital download version of the 2019 edition of
Getting Started with Amateur Satellites is now available as a
DRM-free PDF from the AMSAT Store. Get yours today!
https://tinyurl.com/ANS-237-Getting-Started

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da item as disproportionate.

The IARU recognizes the concern and does not want the amateur service to affect the operation of the Galileo system in any way. It has already updated its operational recommendations for amateur stations in Region 1. If necessary, further recommendations may be developed and rolled out globally.

In CEPT, two preliminary measurement studies of Galileo receiver performance/vulnerability (from 2015 and 2019) are currently being evaluated. Discussions can be more timely and focused within CEPT. The IARU believes that this process already offers the potential for a satisfactory solution and thus the issue does not warrant WRC action and the commitment of ITU resources.

Posted on: http://www.iaru.org/news--events

[ANS thanks Dave Sumner, K1ZZ and the IARU for the above information]

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Need new satellite antennas? Purchase Arrows, Alaskan Arrows,
and M2 LEO-Packs from the AMSAT Store. When you purchase through
AMSAT, a portion of the proceeds goes towards
Keeping Amateur Radio in Space.
https://amsat.org/product-category/hardware/

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AMSAT Member Dhruv Rebba, KC9ZJX, Youth Excellence Award

Congratulations to AMSAT member Dhruv Rebba, KC9ZJX, Newsline Young Ham of the Year on his award as the first ever Youth Excellence Award in collaboration with McLean County (Bloomington-Normal, IL) Indian Association (MCIA) for the year 2019.

The MCIA invited nominations for individuals from Asian Indian youth in Bloomington-Normal who have gone above and beyond in community service and individual attainment. Dhruv's award was based on attaining the goals of the Youth Excellence Award:

1. To celebrate exemplary behavior among young people in Blo-No's Asian Indian Community
2. To encourage and motivate young people in the pursuit of Excellence & Creativity in the Performing Arts, Community Leadership, Sports, Academics, Innovation etc. to name a few
3. To push one's own self-imposed boundaries and become better versions of oneself
4. To encourage young people to be positive role models/ambassadors and mentors in their communities
5. To foster a spirit of volunteerism and public service among youth

Dhruv received his award during the MCIA Diwali Dinner 2019 in Bloomington-Normal, Illinois.

[ANS thanks and congratulates Dhruv's and his father, Hari Rebba and the McLean County Indian Association for the above information]

Changes to AMSAT TLE Distribution for November 14, 2019

The following Amateur Radio satellite has decayed from orbit and has been removed from this week's TLE distribution:

NO-83(BRICSAT-P) - NORAD CAT ID 40655 - Decayed 11/07/2019 at approx. 19:49 UTC

Thanks to Alan Biddle, WA4SCA for decay date estimate.

[ANS thanks Ray Hoad, WA5QGD, AMSAT Orbital Elements Manager, for the above information]

G4BAO 23cm-45 W-PA Available as Public Domain

This repository contains details of the G4BAO 45 Watt 23cm Power Amplifier published in RSGB RadCom Magazine in June 2009 and later in the book " Microwave Know How for the Radio Amateur" by Andy Barter, G8ATD.

This PA was sold for many years as a kit by the designer. The decision has been made to not sell any further kits so the designs are now made available here under the terms of an MIT license. It includes a copy of the original article, Eagle board and schematic files, plus Gerber files for the PCB, which must be made from Taconic 0.7mm RF35 sub-strate.

The design can be accessed at: https://github.com/g4bao/23cm-45W-PA

[ANS thanks AMSAT-UK for the above information]

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before AOS

+ Istituto San Paolo delle Suore Angeliche, Milano, Italy and Istituto Comprensivo Di Merone – Mons. A. Pirovano, Merone, Italy, telebridge via W6SRJ

The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Luca Parmitano KF5KDP
Contact is go for: Thu 2019-11-21 09:12:07 UTC 50 deg

+ MAOU Lyceum No. 39, Nizhny Tagil, Russia, direct via TBD

The ISS callsign is presently scheduled to be RSØISS
The scheduled astronaut is Alexander Skvortsov
Contact is go for 2011-11-30 14:15 UTC

A reminder that the deadline to submit proposals for ARISS contacts to be scheduled between July 1, 2020 and December 31, 2020 is coming up on November 30, 2019. For more information visit https://www.ariss.org/

[ANS thanks Charlie Sufana, AJ9N, and David Jordan, AA4KN, ARISS operation team members, for the above information]

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Hawaii (BK19, BK28, BK29, BL20) December 21-28, 2019
Alex, N7AGF, is heading back to Hawaii over Christmas. This will be a holiday-style activation, with special empahasis on the grid that got away – BK28. Keep an eye on Alex's Twitter feed for further announcements: https://twitter.com/N7AGF

Please submit any additions or corrections to ke4al (at) amsat.org

[ANS thanks Robert Bankston, KE4AL, AMSAT VP - User Services, for the above information]

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AMSAT, along with our ARISS partners, is developing an amateur radio package, including two-way communication capability, to be carried on-board Gateway in lunar orbit.
Support AMSAT's projects today at https://www.amsat.org/donate/

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Satellite Shorts From All Over

+ Dr. Alan Johnston, KU2Y, AMSAT VP Educational Relations will be giving a presentation at the 110th Radio Club of America Awards Banquet and Technical Symposium, held this year at the Westin Times Square, New York City on November 23. The topic is "Designing the AMSAT CubeSat Simulator: A Functional Satellite Model for the Classroom". For more information see: https://tinyurl.com/ANS-321-RCA

+ The Seattle Times featured an article about the University of Washington's HuskySat-1 satellite. HuskySat-1 carries an AMSAT-provided linear transponder. https://tinyurl.com/ANS-321-UW

+ At 01:07 UTC on November 16, 2000, Phase 3D launched on an Ariane V rocket from Kourou, French Guiana and became AMSAT-OSCAR 40. Likely the most ambitious project ever completed by radio amateurs, the satellite unfortunately suffered an explosion in its propulsion system during a burn of its primary motor on December 13, 2000. Though damaged by the explosion, the satellite went on to provide worldwide amateur radio communications until the main battery suddenly failed on January 25, 2004. Though its life was unfortunately shortened, the satellite did conduct a successful experiment that helped to validate above-the-constellation use of GPS and influenced the design of the current Block III GPS series of satellites. See https://tinyurl.com/ANS-321-AO-40 for details on the experiment.

+ Proceedings of the Microwave Update 2019, held in Dallas, Texas October 3-5, have been published as a PDF which includes a couple of satellite related presentations. It is now available for free download at http://ntms.org/files/MUD2019/MUD_Proceedings_2019.pdf
(via North Texas Microwave Society)

+ All the photos in the MUD Proceedings are in black and white. The MUD GNR file is in color at http://www.ntms.org/
(via Zack W9SZ on the Microwave list)

+ All videos from the AMSAT-DL symposium Bochum are online.
Recorded from the wideband transponder by DB8TF
A playlist includes all videos from Saturday and Sunday:

https://www.youtube.com/channel/UC1Gtsa1KaEAgRc-dvWo44QQ
If you can, please translate Screen texts to other languages
and add to the video.
(Via AMSAT-DL)

+ On October 7, 8 and 9, 2019, the University of New Brunswick’s (UNB) Department of Electrical and Computer Engineering and CubeSat NB hosted the first of three Preliminary Design Review (PDR) meetings for the Canadian CubeSat Project initiated by the Canadian Space Agency (CSA). Radio Amateurs of Canada was present for the meeting. More details at https://tinyurl.com/ANS-321-RAC
(Via RAC)

+ This page gives a statistical plot showing groups of satellites as a plot of the semi-major axis of the orbit against orbital inclination resulting in "families" and "clusters" in orbit.
https://tinyurl.com/ANS-321-Orbits

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73 and remember to help Keep Amateur Radio in Space,

This week's ANS Editor,

Paul Stoetzer, N8HM
N8HM at amsat dot org